

## References

- Applebome, P. (1996, October 23). NCAA: Effort to raise academic standards leaves many top students on sidelines. *The New York Times*, p. B12.
- Bonacci, M. L. (1997, September 11). Letter to the NCAA Academic Requirements Committee.
- Caufman, J. C. (1997, March 23). Letter to Walter Roberts.
- Cellar, T. K. (1997, April 28). Letter to Joe Nathan.
- Cureton v. NCAA* (1997).
- Ganden, W. (1998, March 20). Our son's battle with the NCAA, or Chad versus Goliath. *Counseling Today*, pp. 8, 20.
- Girard, F. (1996, December 15). Tougher NCAA standards under scrutiny. *The Detroit News*, p. E-1.
- Henry, T. (1998, February 18). "NCAA eligibility: Game of frustration." *USA Today*, p. 8B.
- Kling, J. (1998, February 18). "NCAA as reform obstacle." *Education Week*, p. 37.
- Lammel, J. (1998, February 11). Interview with the author.
- Larson, J. (1996, October 10). Interview with author.
- Lennon, K. (1998, April 21). Interview with author.
- Minnesota Association of School Administrators. (1997, December 3). Resolution adopted.
- National Association of Secondary School Principals. (1996). *Breaking ranks: Changing an American institution*. Reston, VA: Author.
- National Collegiate Athletic Association. (1997, December). *1996-97 NCAA annual reports*. Overland Park, KS: Author.
- The NCAA's eligibility Standards. (1997, December 23). [Editorial]. *The New York Times*. (p. A12.)
- NCAA's too-tight rules hurt deserving students. (1996, October 29). [Editorial]. *USA Today*, p. 12A.
- Phillip v. NCAA*, WL 870689 (D. Conn. 1996).
- Ponessa, J. (1996, October 16). Student coursework runs afoul of NCAA's rules on eligibility. *Education Week*, pp. 1, 10.
- Rohde, M. (1997, March 17). "On your marks . . . stop". *Milwaukee Journal Sentinel*, p. 1B.
- Stafford, B. (1998, January 10). Presentation to a press conference at the NCAA annual conference in Atlanta.
- Symons, C. R. (1997, February 27). Letter to Dee Grover-Thomas, principal, Minnesota New Country School.
- Sutherland, D. (1997, October 17). Letter to Kevin Lennon, Director of Member Services, NCAA.
- Welburn, B. (1997, December 15). Nation's education boards issue policy statement critical of NCAA's eligibility procedures. Alexandria, VA: National Association of State Boards of Education.
- Weiberg, S. (1997, October 30). Justice Department: NCAA violates disabilities act. *USA Today*, p. 1D.
- Zenor, A. (1997, September 10). Interview with author.

## Standards, Accountability, and School Reform: Perils and Pitfalls

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*This article examines current debates about educational standards, accountability systems, and school reform from the perspective of Deci and Ryan's Self-Determination Theory. Evidence from this twenty-five-year tradition of research reveals various perils associated with rigid standards, narrow accountability, and tangible sanctions that can debase the motivations and performances of teachers and students. Teachers faced with reforms that stress such practices may become controlling, unresponsive to individual students, and alienated. Test- and sanction-focused students may lose intrinsic interest in subject matter, learn at only a superficial level, and fail to develop a desire for future learning. Thus, although reforms that stress standards, accountability, and sanctions may (or may not) succeed in raising test scores, they are also likely to sabotage a key goal of education—creating a flexible population of life-long learners who can adjust to the changing needs of society and the workplace. Alternative strategies for reform are suggested that place greater stress on trust, teacher professionalism, and responsive education for students.*

Many steps must be taken to achieve success [in educational reform], but we agree that three are particularly important—and we commit our organizations to substantive action in these areas: First, helping educators and policy makers set tough academic standards, applicable to every student in every school; second, assessing student and school-system performance against those standards; and third, using that information to improve schools and create accountability, including rewards for success and consequences for failure.

—Norman R. Augustine, Ed Lupberger, and James F. Orr, III (Chairmen, respectively, of The Business Roundtable Education Task Force, the U.S. Chamber of Commerce, and the National Alliance of Business. From a flyer distributed by their organizations in 1996, entitled "A Common Agenda for Improving American Education")

Calls for tough, universal academic standards, more use of national tests, and greater accountability, backed by strong "rewards" or "consequences,"

are frequently heard in current debates about educational reform. Proponents of such actions seem to assume that problems in American schools occur because educators are not sufficiently focused on the bottom-line issue of student performance. To solve such problems, according to this view, we need to set higher standards for students, assess students' performance with standardized tests, and reward or punish students, their teachers, and their schools, depending on whether those standards are met.

Many aspects of this perspective are problematic. One of the most questionable is the use of tangible rewards or punishments to promote better performance by students and their teachers. As we shall show, many perils can arise when politicians try to graft sanctioning systems onto the educational process. Enthusiasm for the use of such systems seems to reflect a top-down view of human enterprise, in which leaders try to maximize productivity by assigning rote tasks to their followers and ensuring their task performance through the provision of rewards or punishments. This hierarchical view was promoted in the first half of the twentieth century by advocates such as F. W. Taylor and Henry Ford and seemed at that time to be a good way to think about the employees who would staff assembly lines.<sup>1</sup> But today's assembly lines are more often staffed by computerized robots, and advanced thinking in the business world now stresses the need for employee flexibility, creativity, and an ability to transcend intraorganizational boundaries.<sup>2</sup>

This does not mean that accountability and incentive systems will disappear completely from the business world. Businesses tend to have a single, easy-to-measure bottom line: economic profit. Given such a goal, explicit reward and punishment systems can sometimes be useful tools for motivating people to perform tedious, difficult, or dangerous (though profitable) tasks, although we would argue that businesses also pay a hidden price when they over-stress such systems. However, education is a different matter: schools are *not* businesses run for profit, teachers are *not* assembly-line workers, and students are *not* commodities to be turned out with specific skills installed and ready to take their place on the assembly lines of America. Rather, schools are complex organizations, with many goals, whose success is often hard to measure. Teachers must cope with a role that is demanding, complex, and moral, and students must be considered as works-in-progress, with multiple interests, unique goals and perspectives,<sup>3</sup> and the enduring potential to construct and reconstruct both themselves and their social worlds—if that potential is not squandered.<sup>4</sup>

Thus, we argue that a key goal of modern education must be to create a population of lifelong, self-directed learners: adults who possess sophisticated interests, an enduring receptivity to new challenges and growth, and a willingness to adapt to the changing needs of the workplace and society-

at-large. However, a good deal of research suggests that the practice of bribing or punishing students (and teachers) in order to motivate performance will only thwart this goal. Although such incentives can be used to boost superficial performance in the short run, they are also likely to create an educational climate that alienates teachers from teaching and students from learning. Thus, proposals for educational reform that stress tangible sanctions for performance—such as those of Norman Augustine, Ed Lupberger, and James Orr (quoted above)—are not merely questionable, they are disasters waiting to happen.

Our task here is to examine this research and to discuss its implications for current debates about educational reform. Most of the studies we review reflect the concepts and ideas of Deci and Ryan's Self-Determination Theory, so we begin with a general overview of the theory.<sup>5</sup> We next describe four examples of research that support the theory. Finally, we consider what these ideas suggest about the probable effects of simple-minded accountability systems and discuss better strategies for educational reform.

### SELF-DETERMINATION THEORY

Self-Determination Theory begins with the concept of intrinsic motivation. *Intrinsically-motivated* behaviors are actions carried out because people enjoy doing them. (In contrast, *externally-motivated* behaviors are engaged in to earn a tangible reward or avoid a punishment.) A huge literature now documents the relative advantages of intrinsic motivation. Although externally-motivated persons can demonstrate impressive feats of short-term, rote learning, intrinsically motivated learners retain such rote material longer, demonstrate a stronger understanding of both rote and more complex material, and demonstrate greater creativity and cognitive flexibility.<sup>6</sup> This happens because intrinsically-motivated persons are more wholly engaged and absorbed in their activities, bringing more of their previous knowledge and integrative capacities to bear in their pursuit of new understanding and mastery.<sup>7</sup>

The concept of intrinsic motivation is also integral to a central philosophical position in the life sciences: the organismic perspective. In this view, humans are assumed to be inherently active, with a natural motivation to explore and assimilate their environments. As they do so, they develop new cognitive structures and abilities.<sup>8</sup> This does not mean that their interests cannot be guided. Indeed, those interests can be channelled, expanded, and stimulated by sensitive mentors who are able to respond to the needs of those who learn. It follows that promoting student interests in socially valued topics through such means is one of the key tasks facing education.<sup>9</sup>

However, the literature makes it clear that states of intrinsic motivation are fragile; they are easily undermined by factors such as concrete rewards, surveillance, contingent praise, and punitive sanctions.<sup>10</sup> The common denominator connecting such factors is that they tend to move the "perceived locus of causality" for the activity outside the person's phenomenal self and into the external environment. When this happens, the person feels like a "pawn," rather than an "origin."<sup>11</sup> And once a person begins to feel like a pawn, it is difficult for him or her to reclaim the self-directed initiative and sense of involvement that promote maximal learning, creativity, and performance.

The organismic perspective makes sharply different assumptions than operant theory, in which people are thought to be inherently passive—acting only to relieve biological drives or secondary motives that have been set up through prior conditioning. Ironically, however, the research we discuss below indicates that operant theory's pessimistic assumptions about human nature *can become true* if people are treated in controlling ways. Thus, before endorsing new top-down initiatives for educational reform, it is very important to consider their potential for depriving students and teachers of intrinsic motivation.

Of course, not all of the things that students and teachers must do are "fun" and enjoyable. Almost all students, for example, will find that learning the multiplication table or a foreign-language vocabulary are dull tasks. Students also have their own unique interests and talents, which may not converge with the particular materials a teacher offers in the classroom. Although teachers should try to make materials interesting for most students, it is unlikely that they can meet the unique needs of everyone. When they cannot, they may instead promote a second positive form of motivation specified in Self-Determination Theory—*identified motivation*. A person has identified motivation when he or she willingly chooses to perform a behavior despite the fact that it is not intrinsically interesting. To illustrate, consider the person who goes to the dentist each year for an annual checkup. This behavior is unlikely to be enjoyable, but the person engages in it because it is thought to be important and valuable. As is the case with intrinsically motivated behavior, the perceived locus of causality for identified motivation also resides within the person's phenomenal self. This is because he or she feels "in charge" and that he or she made the decision to engage in the behavior.

It follows that if we want to produce long-term, self-directed learning among students, our schools should not only promote intrinsic motivation for specific topics but should also help to create identified motivation for lifelong learning. This means that students should leave school with the belief that learning is important and valuable, and they should be willing

to seek more education without being prodded or forced, even when that education is not intrinsically interesting. From this perspective, a second key task of education is that of helping students to *internalize* the value of learning.

According to Self-Determination Theory, this is often easily accomplished because humans have a natural propensity to take in the values promoted by mentors and authorities. Thus, in their efforts to assimilate and adapt to their environments, students are often willing to be shown which goals and motives are important and may then internalize such ideas. The theory asserts that authorities (i.e., educators) can best facilitate this internalization process by providing support for students' feelings of autonomy.

Three techniques associated with autonomy support have been identified, and all three have been shown to promote increased identification when activities are not intrinsically motivating.<sup>12</sup> Specifically, when asking students to perform such activities, authorities can: (1) acknowledge and validate the person's perspective ("I understand that this may not seem like a lot of fun, and that's O.K."); (2) provide choice whenever possible ("If you'd rather not do it that way, you can choose to do it this way"); and (3) provide a rationale when choice provision is impossible ("It's important to learn these multiplication facts by heart because many of the more interesting things we will do later depend on this knowledge"). When teachers present activities in such ways, students are able to connect their sense of self to the activity and thus are more likely to identify with it. In contrast, when teachers are controlling; that is, dictatorial, coercive, punitive, or uninterested in students' ideas, internalization is forestalled.<sup>13</sup>

The two useful forms of motivation we have discussed (intrinsic and identified) may also be contrasted with two less desirable forms. *Externally motivated* behaviors are those that are done largely or solely to obtain a reward or avoid a punishment. In performing them, the person assigns little value to the activity and feels little or no sense of involvement in doing it. To illustrate: factory workers may perform jobs they consider boring, exhausting, or dangerous, provided they are paid sufficiently. Needless to say, external motivation tends to involve "have to's" and "must's" and is often characterized by cynicism or resignation, where the perceived "locus of causality" lies outside the person.

Finally, *introjected motivation* occurs when persons force themselves to do an activity in order to avoid guilt or anxiety, or, in order to protect or shore up their sense of self-esteem. For example, a person may have a bad case of flu and ought to stay in bed, but decides to attend a scheduled meeting because of an earlier promise that he or she would attend. Introjected motivation involves "should's" and "ought's" and is often character-

ized by feelings of internal pressure; here, the perceived locus of causality also does not lie fully within the person.

Various studies have shown that external and introjected motivation are common among students when teachers are controlling or when they try to use tangible rewards and punishments.<sup>14</sup> Furthermore, research has indicated that neither of these latter forms of motivation promotes the type of deeper conceptual learning that we desire in students and that neither is likely to generate behavior that persists for long in the absence of external prods and support.<sup>15</sup> What this means, then, is that the use of tangible rewards and punishments tends to defeat the goals of creating student interests in both subject matter and self-directed, lifelong learning. Similarly, when teachers are faced by sanctioning systems that generate only external or introjected motivation, they are likely to experience resentment and loss of morale, to engage in superficial conformity, and (eventually) to quit their jobs as teachers.<sup>16</sup>

### SPECIFIC STUDIES APPLYING THESE IDEAS

These ideas suggest that accountability systems can and often do create negative forces that are inimical to key goals of education. In order to illustrate these ideas more concretely, we describe here the results of four specific studies.

The first study, conducted by Deci, examined the effects of two types of instructional sets upon the performance of teachers asked to teach students about spatial relations puzzles.<sup>17</sup> In one condition, teachers were told, "Your role is to facilitate the student's learning how to work with the puzzles. There are no performance requirements; your job is simply to help the student learn to solve the puzzles." In the other condition teachers were told, "Your role is to ensure that the student learns to solve the puzzles. It is a teacher's responsibility to make sure that students perform up to standards." Thus, the study provided two very different types of instructional set: one in which student understanding was the goal; the other which stressed the need for students to perform "up to standards."

The investigators found sharp differences in the ways in which teachers behaved given these two conditions. Specifically, teachers in the "performance standards" condition talked more and used more controlling strategies (i.e., they issued more "should" statements and made more criticisms of students). Furthermore, they let students solve far fewer puzzles on their own. Although students in this condition completed more puzzles, only in four percent of cases were they allowed to solve the puzzles by themselves. In contrast, students in the "learning only" condition solved 30 percent of completed puzzles by themselves and rated the teacher as

promoting greater understanding. Thus, although students with controlling teachers may have appeared to accomplish more, they actually learned less because their teachers were, in essence, doing the puzzles for them. Findings such as these surely challenge the vaunted "advantages" of telling teachers they must make sure their students meet higher performance standards!

Grolnick and Ryan made a related point in a study of reading performance outcomes among fifth-grade children.<sup>18</sup> Specifically, they examined the effects of three types of task-set on students' ability to comprehend the conceptual meaning of a reading passage. Students in the first, *nondirected* condition were told simply, "After you are finished, I'll be asking you some questions." Grading and evaluation were not mentioned. In effect, students were "turned loose" to find their own ways of becoming interested in the material.

Students in a second, *directed* (but noncontrolling) condition were told, "After you're finished, I'm going to ask you some questions about the passage. It won't really be a test, and you won't be graded on it. I'm just interested in what children can remember from reading passages." This manipulation focused students' attention on the goal of learning without emphasizing an ensuing test, thus inviting them to develop identified motivation for the task.

In contrast, students in a third, *controlling* condition were told, "After you are finished, I'm going to test you on it. I'm going to see how much you can remember. You should work as hard as you can because I'll be grading you on the test to see if you're learning well enough." This manipulation was designed, of course, to give students an external locus of causality for their learning. (In effect they were led to believe, "I'm doing this reading largely or solely because of the upcoming test.")

As expected, students given the first, *nondirected* instructions indicated the most *interest* in the text and felt the least *pressure*. Conversely, students in the third, or *controlling*, condition felt the most *pressure* and indicated the least interest. In addition, post-testing showed that students in the controlling condition had the poorest conceptual *understanding* of the material taught (see Figure 1), and although they displayed a high level of recall for *rote material* from the reading lesson when tested immediately afterward, they also experienced a large drop in rote recall when retested eight days later (see Figure 2). In contrast, *nondirected* students showed the strongest conceptual understanding of the material they had read and forgot very little of its rote details. In effect, these students had engaged in deeper processing of the information and had integrated that information more fully with their preexisting knowledge.

Interestingly, students in the second, *directed* (but noncontrolling)

condition displayed respectable levels of both understanding and rote recall. This indicates that directive teaching is not necessarily problematic, but it can become a problem when it crosses the line into a controlling mode. And as the first study we reviewed suggests, this threshold is more likely to be crossed when teachers feel pressures from above to ensure that their students perform to high standards.

Of course, teachers do not necessarily become more controlling when performance pressure is imposed from above.<sup>19</sup> Some teachers may have the skills and insights to resist temptations to "bludgeon" their students into learning. There is, however, another way in which top-down performance pressures can generate detrimental effects—when they prompt politicians, education officials, or parents to impose tangible rewards and punishments on students for their performance. Various studies<sup>20</sup> have shown that, when left to their own devices, children will select tasks that are neither too easy nor too hard—tasks just above their current level of skills and understanding. This is consistent with tenets of the organismic perspective, in which humans are assumed to have a natural propensity to seek out optimal challenges as they engage with and assimilate their environments—and when this happens, they tend also to learn at an optimal rate. However, research<sup>21</sup> also shows that this tendency for students to prefer optimal challenges is easily subverted by the introduction of tangible sanctions.

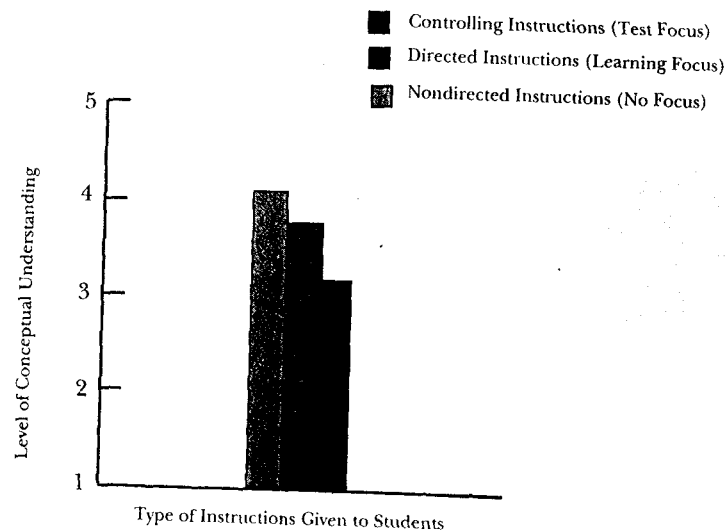


Figure 1. Average level of conceptual understanding as a function of type of instructions.

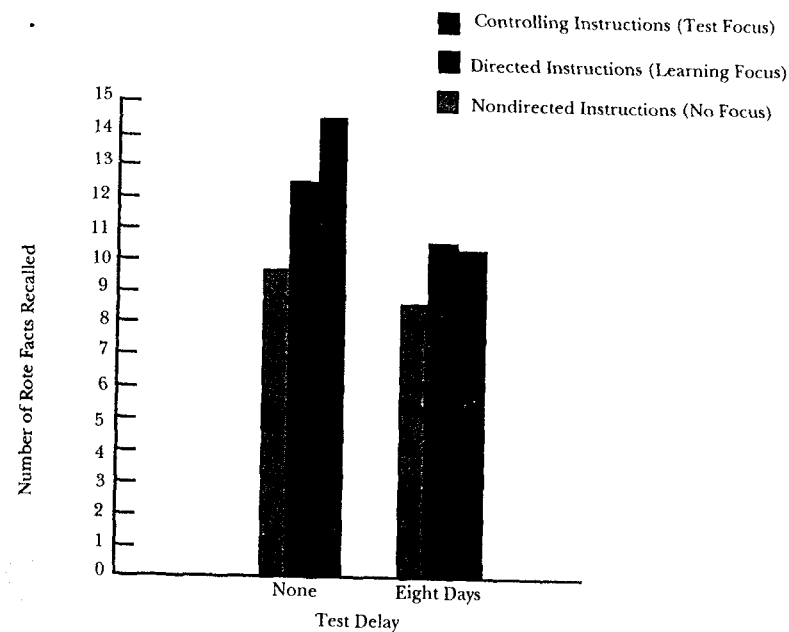


Figure 2. Average number of rote facts recalled as a function of test delay and type of instructions.

To illustrate, Pittman, Emery, and Boggiano conducted a study of second graders in which children played a shape-matching game at an intermediate level of complexity.<sup>22</sup> Children in one condition were simply asked "if they would like to play a game." In contrast, children in another condition were told that they would get a "surprise" if they persisted at and solved game puzzles—and, in fact, they received an appealing prize for their participation. Afterward, all children were left alone in a room with simple, intermediate, and complex versions of the game. The question was: What level of challenge children would prefer when left on their own following the initial session. The researchers found that rewarded children spent most of their time playing with the simplest version of the game and the least amount of time with the most complex version. (Thus, they had become overly concerned about their performance at the expense of seeking challenge.) In contrast, no-reward children preferred the intermediate version of the game, one that was optimally challenging for their current level of development (see Figure 3).

This study was hardly alone in the effects it reported. Rather, a host of studies have indicated that children tend to gravitate toward the simplest possible tasks when external rewards are offered because such tasks offer

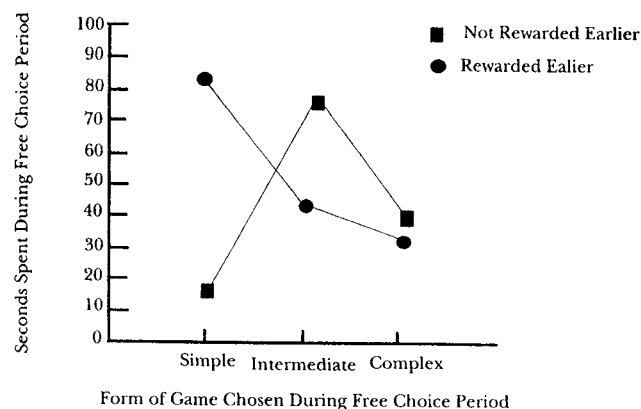


Figure 3. Average time spent with each game during free time following the initial session.

the highest probability of generating those rewards.<sup>24</sup> Furthermore, these studies typically show that after the reward is withdrawn, children have little if any remaining interest in the activity that was rewarded. To say the least, it seems doubtful that children are learning much when they are engaging in tasks that are too easy for them. And it seems even more doubtful that children treated this way will have much interest in further self-directed learning after their school years are over. In other words, reliance on tangible rewards or punishments in the classroom not only depresses important forms of learning but also thwarts the goal of creating self-motivated, lifelong learners.

Finally, we describe a fourth study that concerned the internalization of educational values. In research conducted with medical students, Williams and Deci examined factors leading those students to adopt a "biopsychosocial" model for patient care.<sup>24</sup> This model requires that health care providers become sensitive to patients' psychological and social needs, as well as to those associated with their medical conditions. Second-year medical students took a course on interviewing patients, taught in several sections by different instructors, in which the bio-psychosocial approach was stressed. During the course, students were also asked to rate the degree to which their own instructor supported student autonomy—that is, the extent to which that instructor took the students' perspectives, provided choice whenever possible, and provided meaningful rationales when choice was not possible.

Students with autonomy-supportive instructors were found to internalize

the values promoted in the course more deeply and indicated that they felt more competent as interviewers. Moreover, six months later and again two years later, these same students were found more likely to apply course values in simulated interviews with patients. In sum, autonomy-supportive teaching had helped medical students incorporate the values that were promoted by their authority figures and to connect those values with their own sense of self. Presumably, equivalent processes apply when primary or secondary teachers promote the value of school learning with their students.

### IMPLICATIONS FOR REFORM PROPOSALS THAT STRESS TESTING AND SANCTIONING

With these ideas and findings in mind, let us examine four specific perils which can accompany the testing-and-sanctioning approach to education.

Peril # 1: *Too much focus on tests can lead teachers to adopt a narrowed curriculum, dampening student interest and inhibiting critical thinking.* When strong emphasis is placed on tests and how student performances "stack up," teachers may narrow their curriculum, teach to the test, or encourage students to focus only on knowing how to get the right answers to test-type questions. One problem with such processes is that students' ability to think broadly may be throttled. In addition, they can stultify intrinsic motivation in the subject and thus forestall the self-directed exploration that is crucial to deeper understanding and mastery.

Peril # 2: *Teacher incentive systems tied to student test scores often cause teachers to become more controlling, thus undermining students' conceptual learning, intrinsic interest in the subject matter, and desire to pursue future education.* Problems associated with too much focus on tests are magnified when those test results are used by central authorities to generate rewards and punishments for teachers. When teachers' livelihoods are tied to test results, they become less willing to let students explore and experiment with subject materials and may instead become more controlling in their presentations. Furthermore, these teachers readily transmit their own externally based motivation to students, quickly eroding whatever intrinsic subject-matter interests students may have had. For example, Wild, Enzle, and Hawkins showed that musically naïve students given a piano lesson reacted very differently if they thought the teacher was motivated by extrinsic concerns rather than intrinsic interest in teaching the lesson. In this study, the teacher was blind to experimental conditions and gave the same lesson to all students. However, students who believed their teacher was intrinsically motivated enjoyed the lesson more, were more interested in further learning, and demonstrated greater exploratory activity during subsequent free play.<sup>25</sup>

Peril # 3: *Student incentive systems tied to test scores can ruin students' intrinsic interest in subject matter and reduce their willingness to challenge themselves.* Thus far we have discussed how accountability systems may affect teachers. But problems with accountability are worsened when students are given tangible rewards or punishments for their performance. To illustrate, some school districts today punish students who have failing grades by denying them opportunities to participate in extracurricular activities, such as school-sponsored parties or picnics. Such sanctioning systems are likely to cause students to seek the easiest path to better grades rather than to follow their natural (but fragile) propensities to choose optimally challenging tasks.

Peril # 4: *To the extent that accountability systems are seen as a panacea, they can distract us from dealing with the real problems of education.* More than ever before, students bring problems to the classroom that interfere with their ability to concentrate and learn. Today, many, many American children grow up in poverty, spend their days in miserably funded schools,<sup>20</sup> are surrounded by drugs and violence, receive insufficient attention from parents in dual-career households, and are strongly exposed to the materialistic values and negative role models portrayed in the media. Is it any wonder, then, that they have difficulty with school? Some politicians love to make scapegoats out of teachers and blame them when students do not always succeed in school, but this merely diverts attention from serious social problems those politicians do not want to address. Moreover, those escalating problems mean that the teacher's job today is more difficult than in earlier years. The last thing teachers need is more controlling oversight by politicians and their minions, wielding questionable test scores, focused on narrow domains of academic competence. Instead, the intrinsic motivation that caused teachers to choose this difficult and monetarily unrewarding field in the first place should be nurtured and protected.

Does this mean that teachers will always reject demands for evaluation of their performance? Indeed it does not. Teachers, like other Americans, generally approve of accountability, paying higher wages to persons with outstanding accomplishments, and helping or dismissing those who are incompetent. The problem for teachers, however, is to find legitimate ways to measure their accomplishments in education. Americans set many goals for teaching. Those goals are hard to assess, and teachers who fail to accomplish one or more of them may succeed gloriously in others. Teachers know this; hence, they tend to reject accountability schemes that rely on narrow, simple-minded performance measures. It is possible to imagine an accountability scheme, however, that would assess a wide range of educational goals with sophisticated instruments, and such a scheme might well be embraced by teachers.

In contrast, given the nature of the learning process, accountability schemes that impose sanctions for academic performance on students are almost bound to fail. Learning is best facilitated when students have intrinsic interest in the subject matter, or at least, an identified interest in the task of learning it. But both of these types of motivation are inhibited when student attention is focused on achievement tests and sanctions. Thus, we discover an apparent paradox that applies to student learning. Although maximal student growth may be the goal, if student attention is focused on tests that measure that growth, or on sanctions that reward or punish it, that growth will not be maximized. In contrast, if students are challenged, if their interests in the subject matter are encouraged, if they are given autonomy support, then their intrinsic interests, their motivation for learning, and their test scores will all grow more effectively.

#### BETTER STRATEGIES FOR REFORM

The ideas and studies we have reviewed also suggest principles that can be used to guide better reform strategies. For one thing, they suggest that such strategies will be more successful if they are based on trust in students and teachers—if they assume that most students want to learn and most teachers want to teach. Many things can and should be improved in today's classrooms and schools: among them, poor and overcrowded facilities, outdated textbooks, procedures that give too much stress to competition, tracking, lock-step education, and curricula that promote sloth, ignorance, boredom, or prejudice. But these problems are not likely to disappear if we try to force teachers and students to "shape up." Instead, reforms are more likely to succeed if they involve the active and willing participation of teachers and students.

This can be done, of course, through encouragement, challenge, and appropriate autonomy-support; that is, through minimizing the salience of external controls and potential sanctions and emphasizing students' and teachers' rights to be taken seriously, to participate in activities they consider interesting, and to understand the educational importance of other activities in which they have little intrinsic interest. The more such processes occur, the more students and teachers will be encouraged to involve themselves in education, and the greater will be students' growth of knowledge and achievement.

Most teachers know that these goals are important; indeed, many have already received explicit training in how to bring them about. What is needed now is to create a political and administrative climate in which all teachers can be given this knowledge and supported in using it. Or, to return to our opening metaphor, instead of being viewed as assembly-line

workers who must be forced to do their jobs, teachers should be given the same types of trust and respect we give to other *professionals*.

Can you imagine calls to impose tough, universal standards for performance, the use of narrow, standardized tests to measure that performance, and sanctions, based on those test scores, upon doctors, physicists, the clergy, or Supreme Court justices? The mind boggles. The reason such proposals would be thought absurd is that we assume that the professional roles of doctors, physicists, and the like are complex, that success in them is hard to measure, and that those who perform them are thoroughly trained, highly motivated, and generally competent to do their jobs. This does not mean, of course, that all such professionals are equally competent, and we count on their professional associations (and the law) to detect, review, and ultimately to cashier those who are truly incompetent. But generally we bestow high status, authority, good salaries, and trust on such professionals—and public school teachers should be given the same grace.

Four features of education seem to interfere with this goal: the huge size of the teacher corps, desires to cut or restrain public expenditures, the fact that most teachers are women, and efforts to scapegoat educators. Although such constraints exist, the research we have reviewed suggests that reform proposals that *increase* the professional standing and conduct of teachers (hence, their intrinsic interest in teaching and identification with its objectives) will also generate significant improvements in educational achievement.

When it comes to motivating students, the problem is slightly different. Most students are juveniles and are assumed to know less than their mentors—hence the task of instruction. Some students also act out or have little interest in education. Above all, students are numerous, and one of the primary tasks of education is simply that of keeping large numbers of students off the streets and in safe quarters until they grow up. Given these issues, plus limited funds for schools, the temptation is always to impose on students a common curriculum, to expect similar motivations and performances from them, and to condemn or punish those who do not fit this expected mold.

Alas, however, to do so makes a mockery of all that we know about motivation and learning. Students are individuals, with unique interests and developmental trajectories that proceed on their own terms. *Responsive* teaching is required if we are to reach out to each student and maximize his or her subject-matter interests and potential for growth. Such teaching requires knowledge of the student, encouragement, mentoring, subject-matter expertise, trust, and projecting beliefs about each student's abilities. This type of active, hands-on teaching is almost the direct antithesis of

a teaching style based on universal standards, a lock-step curriculum, and the use of carrots and sticks to "encourage" student learning. But research has shown repeatedly that the former is better able to promote greater student understanding, positive attitudes toward academic subjects, and interest in further education.

Indeed, reforms *can* improve American education, but there is a sharp difference between thoughtful change and ignorant, slogan-driven reform. If reforms are based on trust—if they involve higher professional stature for teachers and encourage more responsive teaching in the classroom—a higher level of teacher morale and greater student interest and achievement will be the result. In contrast, chaos within schools, teacher alienation, student indifference, lower levels of achievement, and long-term declines in American invention, innovation, and industrial productivity are likely to follow if reforms focus on setting high standards, testing, and tangible sanctions for teachers and students. We doubt that advocates for reforms of the latter sort (such as Norman Augustine, Ed Lupberger, and James Orr) intend these draconian outcomes, but they would surely follow if Americans were to embrace the thoughtless agenda urged by such advocates.

Robert Benchley once quipped, "There may be said to be two classes of people in the world: those who constantly divide the people of the world into two classes, and those who do not." We suggest that there are surely two classes of people who propose reforms for education: those who have research-based knowledge about what makes for good teaching, and those who do not. Unfortunately, the latter are far more numerous and—when they possess power—more dangerous. Recently, Americans have been deluged by a host of damaging, erroneous myths about education and ignorant ideas for its reform that are peddled by powerful persons.<sup>27</sup> This has helped generate a staggering disjuncture between the views of education held by the public and those who actually understand how education works.<sup>28</sup> Indeed, it will take great effort to overcome the mischief that misguided proposals, such as those of Augustine, Lupberger, and Orr, have imposed on debates about educational reform in America.

### Notes

1 Frederick W. Taylor, *The Principles of Scientific Management* (Westpoint, CT: Greenwood Press, 1911). See also Raymond Callahan, *Education and the Cult of Efficiency* (New York: Free Press, 1962).

2 Barry Jones, *Sleepers Wake: Technology and the Future of Work* (Melbourne: Oxford University Press, 1982); J. Hirsch, "Fordism and Post-Fordism: The Present Social Crisis and its Consequences," in *Post-Fordism and Social Form*, ed. W. Bonefeld and J. Holloway. Basingstoke, England: Macmillan, 1991), pp. 8-32; and Susan L. Robertson, "Restructuring Teachers' Labor: 'Troubling' Post-Fordisms," in *International Handbook of Teachers and Teaching*, ed. B. J. Biddle, T. L. Good, and I. J. Goodson. Dordrecht, The Netherlands: Kluwer, 1997), pp. 621-70.



- 3 Kennon M. Sheldon and Tim Kasser, "Coherence and Congruence: Two Aspects of Personality Integration," *Journal of Personality and Social Psychology*, 68 (1995): 531-43.
- 4 See, among other sources, John Dewey's *Moral Principles in Education* (Boston: Houghton Mifflin, 1909) or *Democracy and Education* (New York: Macmillan, 1916).
- 5 See Edward L. Deci and Richard M. Ryan, *Intrinsic Motivation and Self-Determination in Human Behavior* (New York: Plenum, 1985); and Edward L. Deci and Richard M. Ryan, "A Motivational Approach to Self: Integration in Personality," in R. Dienstbier, Ed., *Nebraska Symposium on Motivation*. Lincoln, NE: University of Nebraska Press, 1991, pp. 237-88.
- 6 Kennon M. Sheldon, "Creativity and Self-Determination in Personality," *Creativity Research Journal*, 8 (1995): 61-72.
- 7 Richard M. Ryan and Jerome Stiller, "The Social Contexts of Internalization: Parent and Teacher Influences on Autonomy, Motivation, and Learning," *Advances in Motivation and Achievement*, 7 (1991): 115-49.
- 8 John Dewey, *Experience and Education* (New York: Collier, 1938); and Jean Piaget, *Biology and Knowledge* (Chicago: University of Chicago Press, 1971).
- 9 Russell Ames and Carole Ames, "Motivation and Effective Teaching," in L. Idol & B. F. Hones, Eds., *Educational Values and Cognitive Instruction: Implications for Reform* (Hillsdale, NJ: Lawrence Erlbaum, 1991), pp. 247-71; Carol S. Dweck, "Social Motivation: Goals and Social-Cognitive Processes. A Comment," in J. Juvonen and K. R. Wentzel, Eds., *Social Motivation: Understanding Children's School Adjustment* (New York: Cambridge University Press, 1996), pp. 181-95; and Mark R. Lepper, Sheena Sethi, Dania Daldin, and Michael Drake, "Intrinsic and Extrinsic Motivation: A Developmental Perspective" in S. S. Luthar, J. A. Burack, D. Cicchetti, and J. R. Weisz, Eds., *Developmental Psychopathology: Perspectives on Adjustment, Risk, and Disorder* (New York: Cambridge University Press, 1997), pp. 23-50.
- 10 See Deci & Ryan, "Motivational Approach to Self," for a review of this evidence.
- 11 Richard deCharms, *Personal Causation: The Internal Affective Determinants of Behavior* (New York: Academic Press, 1968).
- 12 See Edward L. Deci, Haleh Eghrari, Brian Patrick, and Dean Leone, "Facilitating Internalization: The Self-Determination Theory Perspective" *Journal of Personality*, 62 (1994): 119-42.
- 13 Christine Chandler and Jim Connell, "Children's Intrinsic, Extrinsic, and Internalized Motivation: A Developmental Study of Children's Reasons for Liked and Disliked Behavior" *British Journal of Developmental Psychology*, 5 (1987): 357-65.
- 14 Edward L. Deci, Allan Schwartz, Louise Sheinman, and Richard M. Ryan, "An Instrument to Assess Adult's Orientations Toward Control Versus Autonomy with Children: Reflections on Intrinsic Motivation and Perceived Competence" *Journal of Educational Psychology*, 73 (1981): 642-50.
- 15 Mark Lepper and David Greene, "Turning Play Into Work: Effects of Adult Surveillance and Extrinsic Rewards on Children's Intrinsic Motivation," *Journal of Personality and Social Psychology*, 31 (1975): 479-86.
- 16 See Anthony G. Dworkin, *Teacher Burnout in the Public Schools: Structural Causes and Consequences for Children* (Albany: State University of New York Press, 1987); and *ibid.*, "Coping with Reform: The Intermix of Teacher Morale, Teacher Burnout, and Teacher Accountability," in *International Handbook of Teachers and Teaching*, ed. Biddle, Good, and Goodson, pp. 459-98.
- 17 Edward L. Deci, Nancy H. Spiegel, Richard M. Ryan, Richard Koestner, & M. Christina Kauffman, "The Effects of Performance Standards on Teaching Styles: The Behavior of Controlling Teachers," *Journal of Educational Psychology*, 74 (1982): 852-59.
- 18 Wendy S. Grolnick and Richard M. Ryan, "Autonomy in Children's Learning: An Experimental and Individual Differences Investigation," *Journal of Personality and Social Psychology*, 52 (1987): 890-898.
- 19 See Cheryl Flink, Ann K. Boggiano, and Marty Barrett, "Controlling Teaching Strategies: Undermining Children's Self-determination and Performance," *Journal of Personality and Social Psychology*, 42 (1982): 789-97.
- 20 See Ryan and Stiller, "The Social Contexts of Internalization."
- 21 Pittman, Emery, and Boggiano, "Intrinsic and Extrinsic Motivational Orientations."
- 22 Thane S. Pittman, Joel Emery, and Ann K. Boggiano, "Intrinsic and Extrinsic Motivational Orientations; Reward-induced Changes in Preference for Complexity," *Journal of Personality and Social Psychology*, 42 (1982): 789-97.
- 23 For a review, see Ryan and Stiller, "The Social Contexts of Internalization."
- 24 Geoffrey Williams and Edward L. Deci, "Internalization of Biopsychosocial Values by Medical Students: A Test of Self-Determination Theory," *Journal of Personality and Social Psychology*, 70 (1996): 767-79.
- 25 See Cameron Wild, Michael Enzle, & Wendy Hawkins, "Effects of Perceived Extrinsic vs. Intrinsic Teacher Motivation on Student Reactions to Skill Acquisition," *Personality and Social Psychology Bulletin*, 1 (1992): 245-51.
- 26 Bruce J. Biddle, "Foolishness, Dangerous Nonsense, and Real Correlates of State Differences in Achievement," *Phi Delta Kappan*, September, 1997, pp. 9-13.
- 27 See David C. Berliner and Bruce J. Biddle, *The Manufactured Crisis: Myths, Fraud, and the Attack on America's Public Schools* (New York: Addison-Wesley-Longman, 1995).
- 28 See Public Agenda, *Different Drummers: How Teachers of Teachers View Public Education* (New York: Author, 1997).